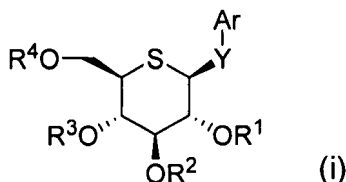


**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

**1. (currently amended):** A 5-thio- $\beta$ -D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof or a hydrate thereof:



{wherein

Y represents -O- or -NH-,

$R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$ , which may be the same or different, each represent a hydrogen atom, a  $C_{2-10}$  acyl group, a  $C_{7-10}$  aralkyl group, a  $C_{2-6}$  alkoxy carbonyl group, a  $C_{1-6}$  alkoxy- $C_{2-10}$  acyl group or a  $C_{1-6}$  alkoxy- $C_{2-6}$  alkoxy carbonyl group,

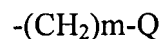
Ar represents an aryl group substituted with  $-X-A^1$ , in which the aryl group may further be substituted with the same or different 1 to 4 substituents selected from:

a halogen atom;

a hydroxyl group;

a  $C_{1-6}$  alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group;

a group represented by the formula:



{wherein m represents an integer of 0 to 4 and Q represents a formyl group, an amino group, a nitro group, a cyano group, a carboxyl group, a sulfonic acid group, a C<sub>1-6</sub> alkoxy group which may be substituted with 1 to 4 halogen atoms, a C<sub>1-6</sub> alkoxy-C<sub>1-6</sub> alkoxy group, a C<sub>2-10</sub> acyloxy group, a C<sub>2-10</sub> acyl group, a C<sub>2-6</sub> alkoxy-carbonyl group, a C<sub>1-6</sub> alkylthio group, a C<sub>1-6</sub> alkylsulfinyl group, a C<sub>1-6</sub> alkylsulfonyl group, -NHC(=O)H, a C<sub>2-10</sub> acylamino group, a C<sub>1-6</sub> alkylsulfonylamino group, a C<sub>1-6</sub> alkylamino group, an N,N-di(C<sub>1-6</sub> alkyl)amino group, a carbamoyl group, an N-(C<sub>1-6</sub> alkyl)aminocarbonyl group, or an N,N-di(C<sub>1-6</sub> alkyl)aminocarbonyl group}; or

a C<sub>3-7</sub> cycloalkyl group, a C<sub>3-7</sub> cycloalkyloxy group, an aryl group, a C<sub>7-10</sub> aralkyl group, an aryloxy group, a C<sub>7-10</sub> aralkyloxy group, a C<sub>7-10</sub> aralkylamino group, a heteroaryl group, or a 4- to 6-membered heterocycloalkyl group, provided that each of these groups may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkyl group and a C<sub>1-6</sub> alkoxy group,

X represents -(CH<sub>2</sub>)<sub>n</sub>-, -CO(CH<sub>2</sub>)<sub>n</sub>-, -CH(OH)(CH<sub>2</sub>)<sub>n</sub>-, -O-(CH<sub>2</sub>)<sub>n</sub>-, -CONH(CH<sub>2</sub>)<sub>n</sub>-, -NHCO(CH<sub>2</sub>)<sub>n</sub>-, (wherein n represents an integer of 0 to 3), -COCH=CH-, -S- or -NH-, and

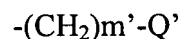
A<sup>1</sup> represents an aryl group, a heteroaryl group or a 4- to 6-membered heterocycloalkyl group, each of which may be substituted with the same or different 1 to 4 substituents selected from:

a halogen atom;

a hydroxyl group;

a C<sub>1-6</sub> alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group;

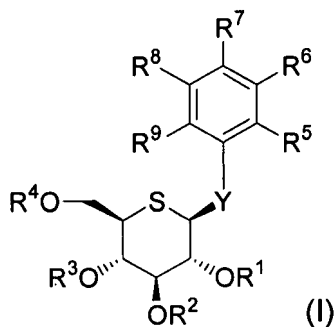
a group represented by the formula:



{wherein m' represents an integer of 0 to 4 and Q' represents a formyl group, an amino group, a nitro group, a cyano group, a carboxyl group, a sulfonic acid group, a C<sub>1-6</sub> alkoxy group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group, a C<sub>1-6</sub> alkoxy-C<sub>1-6</sub> alkoxy group, a C<sub>2-10</sub> acyloxy group, a C<sub>2-10</sub> acyl group, a C<sub>2-6</sub> alkoxycarbonyl group, a C<sub>1-6</sub> alkylthio group, a C<sub>1-6</sub> alkylsulfinyl group, a C<sub>1-6</sub> alkylsulfonyl group, -NHC(=O)H, a C<sub>2-10</sub> acylamino group, a C<sub>1-6</sub> alkylsulfonylamino group, a C<sub>1-6</sub> alkylamino group, an N,N-di(C<sub>1-6</sub> alkyl)amino group, a carbamoyl group, an N-(C<sub>1-6</sub> alkyl)aminocarbonyl group, or an N,N-di(C<sub>1-6</sub> alkyl)aminocarbonyl group}; or

a C<sub>3-7</sub> cycloalkyl group, a C<sub>3-7</sub> cycloalkyloxy group, an aryl group, a C<sub>7-10</sub> aralkyl group, an aryloxy group, a C<sub>7-10</sub> aralkyloxy group, a C<sub>7-10</sub> aralkylamino group, a heteroaryl group, or a 4- to 6-membered heterocycloalkyl group, provided that each of these groups may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkyl group and a C<sub>1-6</sub> alkoxy group}.

2. **(currently amended):** A 5-thio-β-D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof or a hydrate thereof:



{wherein

Y represents -O- or -NH-,

$R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$ , which may be the same or different, each represent a hydrogen atom, a  $C_{2-10}$  acyl group, a  $C_{7-10}$  aralkyl group, a  $C_{2-6}$  alkoxycarbonyl group, a  $C_{1-6}$  alkoxy- $C_{2-10}$  acyl group or a  $C_{1-6}$  alkoxy- $C_{2-6}$  alkoxycarbonyl group, and

at least one of  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  represents  $-X-A^1$  (~~wherein X and A<sup>1</sup> are as defined in claim 1~~) and the other, which may be the same or different, each represent:

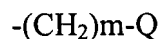
a hydrogen atom;

a halogen atom;

a hydroxyl group;

a  $C_{1-6}$  alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group;

a group represented by the formula:



~~(wherein m and Q are as defined in claim 1)~~ wherein m represents an integer of 0 to 4 and Q represents a formyl group, an amino group, a nitro group, a cyano group, a carboxyl group, a sulfonic acid group, a  $C_{1-6}$  alkoxy group which may be substituted with 1 to 4 halogen atoms, a  $C_{1-6}$  alkoxy- $C_{1-6}$  alkoxy group, a  $C_{2-10}$  acyloxy group, a  $C_{2-10}$  acyl group, a  $C_{2-6}$  alkoxycarbonyl group, a  $C_{1-6}$  alkylthio group, a  $C_{1-6}$  alkylsulfinyl group, a  $C_{1-6}$  alkylsulfonyl group,  $-NHC(=O)H$ , a  $C_{2-10}$  acylamino group, a  $C_{1-6}$  alkylsulfonylamino group, a  $C_{1-6}$  alkylamino group, an N,N-di( $C_{1-6}$  alkyl)amino group, a carbamoyl group, an N-( $C_{1-6}$  alkyl)aminocarbonyl group, or an N,N-di( $C_{1-6}$  alkyl)aminocarbonyl group; or

a  $C_{3-7}$  cycloalkyl group, a  $C_{3-7}$  cycloalkyloxy group, an aryl group, a  $C_{7-10}$  aralkyl group, an aryloxy group, a  $C_{7-10}$  aralkyloxy group, a  $C_{7-10}$  aralkylamino group, a heteroaryl group, or a 4- to 6-membered heterocycloalkyl group, provided that each of these groups may be substituted

with 1 to 4 substituents selected from the group consisting of a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkyl group and a C<sub>1-6</sub> alkoxy group],

X represents -(CH<sub>2</sub>)<sub>n</sub>-, -CO(CH<sub>2</sub>)<sub>n</sub>-, -CH(OH)(CH<sub>2</sub>)<sub>n</sub>-, -O-(CH<sub>2</sub>)<sub>n</sub>-, -CONH(CH<sub>2</sub>)<sub>n</sub>-, -NHCO(CH<sub>2</sub>)<sub>n</sub>-, wherein n represents an integer of 0 to 3, -COCH=CH-, -S- or -NH-, and

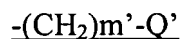
A<sup>1</sup> represents an aryl group, a heteroaryl group or a 4- to 6-membered heterocycloalkyl group, each of which may be substituted with the same or different 1 to 4 substituents selected from:

a halogen atom;

a hydroxyl group;

a C<sub>1-6</sub> alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group;

a group represented by the formula:



wherein m' represents an integer of 0 to 4 and Q' represents a formyl group, an amino group, a nitro group, a cyano group, a carboxyl group, a sulfonic acid group, a C<sub>1-6</sub> alkoxy group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group, a C<sub>1-6</sub> alkoxy-C<sub>1-6</sub> alkoxy group, a C<sub>2-10</sub> acyloxy group, a C<sub>2-10</sub> acyl group, a C<sub>2-6</sub> alkoxycarbonyl group, a C<sub>1-6</sub> alkylthio group, a C<sub>1-6</sub> alkylsulfinyl group, a C<sub>1-6</sub> alkylsulfonyl group, -NHC(=O)H, a C<sub>2-10</sub> acylamino group, a C<sub>1-6</sub> alkylsulfonylamino group, a C<sub>1-6</sub> alkylamino group, an N,N-di(C<sub>1-6</sub> alkyl)amino group, a carbamoyl group, an N-(C<sub>1-6</sub> alkyl)aminocarbonyl group, or an N,N-di(C<sub>1-6</sub> alkyl)aminocarbonyl group; or

a C<sub>3-7</sub> cycloalkyl group, a C<sub>3-7</sub> cycloalkyloxy group, an aryl group, a C<sub>7-10</sub> aralkyl group, an aryloxy group, a C<sub>7-10</sub> aralkyloxy group, a C<sub>7-10</sub> aralkylamino group, a heteroaryl group, or a 4- to 6-membered heterocycloalkyl group, provided that each of these groups may be substituted

with 1 to 4 substituents selected from the group consisting of a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkyl group and a C<sub>1-6</sub> alkoxy group.

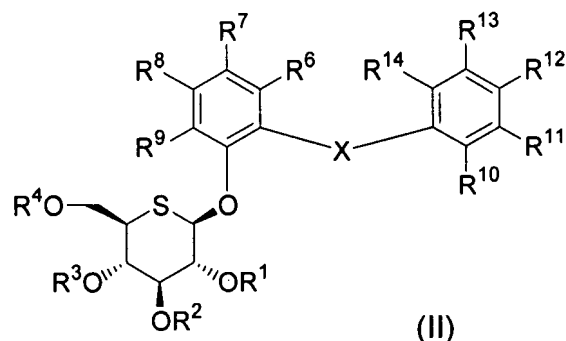
3. **(original):** The 5-thio- $\beta$ -D-glucopyranoside compound according to claim 2, wherein Y is -O-, or a pharmaceutically acceptable salt thereof or a hydrate thereof.

4. **(currently amended):** The 5-thio- $\beta$ -D-glucopyranoside compound according to claim 2-~~or~~ 3, wherein R<sup>5</sup> is -X-A<sup>1</sup>, or a pharmaceutically acceptable salt thereof or a hydrate thereof.

5. **(currently amended):** The 5-thio- $\beta$ -D-glucopyranoside compound according to claim 4, wherein X is -(CH<sub>2</sub>)<sub>n-1</sub> (wherein n represents an integer of 0 to 3), or a pharmaceutically acceptable salt thereof or a hydrate thereof.

6. **(currently amended):** The 5-thio- $\beta$ -D-glucopyranoside compound according to claim 4, wherein X is -CO(CH<sub>2</sub>)<sub>n-1</sub> (wherein n represents an integer of 0 to 3), or a pharmaceutically acceptable salt thereof or a hydrate thereof.

7. **(currently amended):** A 5-thio- $\beta$ -D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof or a hydrate thereof:



{wherein

X represents  $-(CH_2)_n-$ ,  $-CO(CH_2)_n-$ ,  $-CH(OH)(CH_2)_n-$ ,  $-O-(CH_2)_n-$ ,  $-CONH(CH_2)_n-$ ,  $-NHCO(CH_2)_n-$ , (wherein n represents an integer of 0 to 3),  $-COCH=CH-$ ,  $-S-$  or  $-NH-$ ,

$R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$ , which may be the same or different, each represent a hydrogen atom, a  $C_{2-10}$  acyl group, a  $C_{7-10}$  aralkyl group, a  $C_{2-6}$  alkoxycarbonyl group, a  $C_{1-6}$  alkoxy- $C_{2-10}$  acyl group or a  $C_{1-6}$  alkoxy- $C_{2-6}$  alkoxycarbonyl group,

$R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$ , which may be the same or different, each represent:

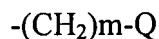
a hydrogen atom;

a halogen atom;

a hydroxyl group;

a  $C_{1-6}$  alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group;

a group represented by the formula:



{wherein m represents an integer of 0 to 4 and Q represents a formyl group, an amino group, a nitro group, a cyano group, a carboxyl group, a sulfonic acid group, a  $C_{1-6}$  alkoxy group which may be substituted with 1 to 4 halogen atoms, a  $C_{1-6}$  alkoxy- $C_{1-6}$  alkoxy group, a  $C_{2-10}$  acyloxy group, a  $C_{2-10}$  acyl group, a  $C_{2-6}$  alkoxycarbonyl group, a  $C_{1-6}$  alkylthio group, a  $C_{1-6}$  alkylsulfanyl

group, a C<sub>1-6</sub> alkylsulfonyl group, -NHC(=O)H, a C<sub>2-10</sub> acylamino group, a C<sub>1-6</sub> alkylsulfonylamino group, a C<sub>1-6</sub> alkylamino group, an N,N-di(C<sub>1-6</sub> alkyl)amino group, a carbamoyl group, an N-(C<sub>1-6</sub> alkyl)aminocarbonyl group, or an N,N-di(C<sub>1-6</sub> alkyl)aminocarbonyl group}; or

a C<sub>3-7</sub> cycloalkyl group, a C<sub>3-7</sub> cycloalkyloxy group, an aryl group, a C<sub>7-10</sub> aralkyl group, an aryloxy group, a C<sub>7-10</sub> aralkyloxy group, a C<sub>7-10</sub> aralkylamino group, a heteroaryl group, or a 4- to 6-membered heterocycloalkyl group, provided that each of these groups may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkyl group and a C<sub>1-6</sub> alkoxy group, and

R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup> and R<sup>14</sup>, which may be the same or different, each represent:

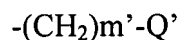
a hydrogen atom;

a halogen atom;

a hydroxyl group;

a C<sub>1-6</sub> alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom and a hydroxyl group;

a group represented by the formula:



{wherein m' represents an integer of 0 to 4 and Q' represents a formyl group, an amino group, a nitro group, a cyano group, a carboxyl group, a sulfonic acid group, a C<sub>1-6</sub> alkoxy group which may be substituted with 1 to 4 halogen atoms, a C<sub>1-6</sub> alkoxy-C<sub>1-6</sub> alkoxy group, a C<sub>2-10</sub> acyloxy group, a C<sub>2-10</sub> acyl group, a C<sub>2-6</sub> alkoxycarbonyl group, a C<sub>1-6</sub> alkylthio group, a C<sub>1-6</sub> alkylsulfinyl group, a C<sub>1-6</sub> alkylsulfonyl group, -NHC(=O)H, a C<sub>2-10</sub> acylamino group, a C<sub>1-6</sub> alkylsulfonylamino group, a C<sub>1-6</sub> alkylamino group, an N,N-di(C<sub>1-6</sub> alkyl)amino group, a



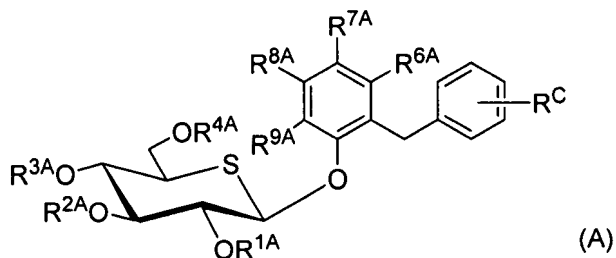
carbamoyl group, an N-(C<sub>1-6</sub> alkyl)aminocarbonyl group, or an N,N-di(C<sub>1-6</sub> alkyl)aminocarbonyl group}; or

a C<sub>3-7</sub> cycloalkyl group, a C<sub>3-7</sub> cycloalkyloxy group, an aryl group, a C<sub>7-10</sub> aralkyl group, an aryloxy group, a C<sub>7-10</sub> aralkyloxy group, a C<sub>7-10</sub> aralkylamino group, a heteroaryl group, or a 4- to 6-membered heterocycloalkyl group, provided that each of these groups may be substituted with 1 to 4 substituents selected from the group consisting of a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkyl group and a C<sub>1-6</sub> alkoxy group}.

**8. (original):** The 5-thio-β-D-glucopyranoside compound according to claim 7, wherein X is -CH<sub>2</sub>-, or a pharmaceutically acceptable salt thereof or a hydrate thereof.

**9. (original):** The 5-thio-β-D-glucopyranoside compound according to claim 7, wherein X is -O- or -NH-, or a pharmaceutically acceptable salt thereof or a hydrate thereof.

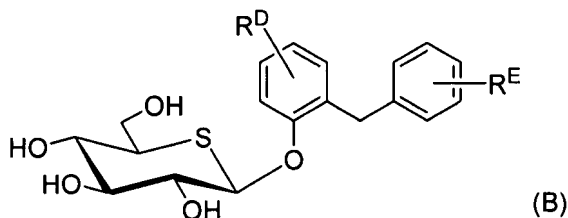
**10. (currently amended):** A 5-thio-β-D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof:



(wherein R<sup>6A</sup> to R<sup>9A</sup>, which may be the same or different, each represent a hydrogen atom, a halogen atom, a C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkoxy group, a C<sub>1-6</sub> alkoxy-C<sub>1-6</sub> alkoxy group, a

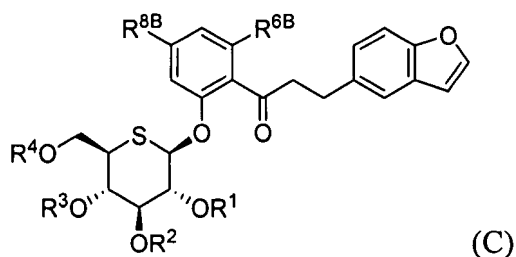
carboxyl group, a C<sub>2-6</sub> alkoxy carbonyl group, a hydroxyl group or a hydroxy-C<sub>1-4</sub> alkyl group, R<sup>C</sup> represents a hydrogen atom, a halogen atom, a C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkoxy group, a hydroxy-C<sub>1-4</sub> alkyl group, a halogen-substituted C<sub>1-6</sub> alkyl group or a C<sub>1-6</sub> alkylthio group, R<sup>4A</sup> represents a hydrogen atom, a C<sub>2-6</sub> alkoxy carbonyl group or a C<sub>2-6</sub> alkanoyl group, and R<sup>1A</sup> to R<sup>3A</sup>, which may be the same or different, each represent a hydrogen atom, a C<sub>2-8</sub> alkanoyl group or a benzoyl group).

**11. (currently amended):** A 5-thio-β-D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof:



(wherein R<sup>D</sup> represents a hydrogen atom, a halogen atom, a C<sub>1-6</sub> alkyl group or a hydroxy-C<sub>1-4</sub> alkyl group, and R<sup>E</sup> represents a hydrogen atom, a halogen atom, a C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkoxy group or a hydroxy-C<sub>1-4</sub> alkyl group).

**12. (currently amended):** A 5-thio-β-D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof or a hydrate thereof:



(wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$ , which may be the same or different, each represent a hydrogen atom, a  $C_{2-10}$  acyl group, a  $C_{7-10}$  aralkyl group, a  $C_{2-6}$  alkoxycarbonyl group, a  $C_{1-6}$  alkoxy- $C_{2-10}$  acyl group or a  $C_{1-6}$  alkoxy- $C_{2-6}$  alkoxycarbonyl group,  $R^{6B}$  represents a hydrogen atom, a halogen atom, a hydroxyl group, a  $C_{2-10}$  acyloxy group, or a  $C_{1-6}$  alkyl or  $C_{1-6}$  alkoxy group which may be substituted with 1 to 4 halogen atoms, and  $R^{8B}$  represents a hydrogen atom, a halogen atom or a  $C_{1-6}$  alkyl group which may be substituted with 1 to 4 halogen atoms).

**13. (original):** A pharmaceutical preparation, which comprises the 5-thio- $\beta$ -D-glucopyranoside compound according to any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof or a hydrate thereof as an active ingredient.

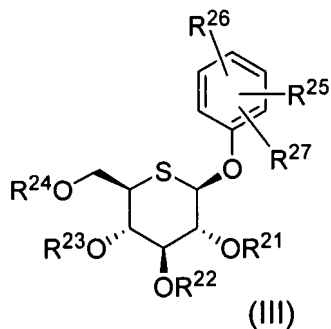
**14. (currently amended):** ~~The pharmaceutical preparation according to claim 13, which is an inhibitor of~~ A method of treating a condition treatable by inhibiting sodium-dependent glucose transporter 2 activity said method comprising administering to a subject in need of treatment a pharmaceutically effective amount of the pharmaceutical preparation according to claim 13, a pharmaceutically acceptable salt thereof or a hydrate thereof.

**15. (currently amended):** The method pharmaceutical preparation according to claim 14, ~~which is a prophylactic or therapeutic agent for~~ wherein the condition is diabetes, diabetes-related diseases or diabetic complications.

**16. (original):** A pharmaceutical preparation, which comprises the 5-thio- $\beta$ -D-glucopyranoside compound according to any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof or a hydrate thereof, in combination with at least one drug selected from the group consisting of an insulin sensitizer selected from the group consisting of a PPAR $\gamma$  agonist; a PPAR $\alpha/\gamma$  agonist; a PPAR $\delta$  agonist; and a PPAR $\alpha/\gamma/\delta$  agonist, a glycosidase inhibitor, a biguanide, an insulin secretagogue, an insulin formulation and a dipeptidyl peptidase IV inhibitor.

**17. (original):** A pharmaceutical preparation, which comprises the 5-thio- $\beta$ -D-glucopyranoside compound according to any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof or a hydrate thereof, in combination with at least one drug selected from the group consisting of a hydroxymethylglutaryl coenzyme A reductase inhibitor, a fibrate, a squalene synthase inhibitor, an acyl-coenzyme A:cholesterol acyltransferase inhibitor, a low-density lipoprotein receptor promoter, a microsomal triglyceride transfer protein inhibitor and an anorectic.

**18. (currently amended):** A 5-thio- $\beta$ -D-glucopyranoside compound of the following formula or a pharmaceutically acceptable salt thereof or a hydrate thereof:



(wherein

$R^{21}$ ,  $R^{22}$ ,  $R^{23}$  and  $R^{24}$ , which may be the same or different, each represent a hydrogen atom or a  $C_{2-10}$  acyl group,

$R^{25}$  represents an amino group, a  $C_{2-6}$  alkanoyl group, a carboxyl group, a formyl group, ~~a halogen atom~~, a  $C_{2-6}$  alkoxy carbonyl group or a hydroxyl group, and

$R^{26}$  and  $R^{27}$ , which may be the same or different, each represent a hydrogen atom, a halogen atom, a hydroxyl group, a  $C_{1-6}$  alkyl group which may be substituted with 1 to 4 substituents selected from the group consisting of ~~a halogen atom and~~ a hydroxyl group, or a  $C_{1-6}$  alkoxy group which may be substituted with 1 to 4 halogen atoms).